1: Beaglehole and Beaglehole

Pukapukans

192

[For words used to describe personality and conduct among the Pukapukans, see category 116, p. 306.]

Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

Physical Characteristics

144 563 Anthropometric measurements made on 230 living adults have been forwarded to Dr. Harry L. Shapiro for analysis. About 25 individuals measured were of mixed blood; the remainder were full-blooded Pukapukans, an equal number of males and females. The amount of racial or of early interisland mixture is not great. Two Manihikian women, castaways, married and settled down on the island about 10 generations ago. Recent intermixture with whites is readily observed. There is no discrimination against or in favor of those of mixed blood. The average stature of Pukapukan men and women 142 is noticeably less than that observed for other Polynesian groups. Women are shorter than men. The presence of the epicanthic fold was noted in several individuals. The glabella is more prominent in men than in women. Face type seems to vary between a narrow, long face with a long nose and a wide face with a short, broad nose. It is possible that analysis will reveal two physical types based on these distinctions. Lips in general are thin or medium thick. The hair is black; low and medium waves are common. Body hair is scanty on both sexes. Skin color is a light brown which becomes very dark on prolonged exposure to the sun. The skin color of infants is extremely fair.

Motor Habits

516 Little sex differentiation was observed in motor habits. The common position in sitting is "turkish fashion". The legs are crossed with knees bent and resting on the inside portion of the sole of the foot, the outside edges of the feet resting on the ground. A common variation is to raise the right foot and rest it on top of the left knee. This is the position for all sedentary activities, whether mat plaiting, food preparation, sennit making, or simple rest. Only a man braiding sennit sits with outstretched legs; he loops the free end of the sennit round the toe of an extended foot to obtain a tension on the cord.

481 [164] The bent-knee gait is common in walking. Apart from individual walking habits due to previous yaws infection of feet and legs, the common habit is to walk with the palms hanging at the side and turned inward, the toes pointing straight ahead. Running and jumping habits seem to be similar to those of the ordinary unskilled white person. Children crawl on hands and knees and on hands and feet.

513 192 Both sexes lie and sleep (*moe*) in a wide variety of positions, on the side, prone, or supine. The Pukapukan distinguishes by descriptive names more than thirty-five different types of sleep according to position, movements during sleep, and soundness of sleep. The amount of sleep for adults varies from 4 to 8 hours each night, sometimes with an hour or more of extra sleep during the day. Young children sleep whenever they are tired. Children

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

821
[621]
776

formerly each village, through its power over specific gods, thought itself able to control the named winds by praying to the appropriate god. No special magical technique would be required for this purpose and the matter would be left to the routine duties of the priest when consulting the gods in the god house.

The gods exercise a general control over the winds from the four cardinal directions (p. 311). The story of Kaliwi (1.) tells how a woman invokes each of the personified winds to blow her down from a tree top, but only the cold Tonga wind has strength to loosen her grip and send her tumbling to the ground.

132
823

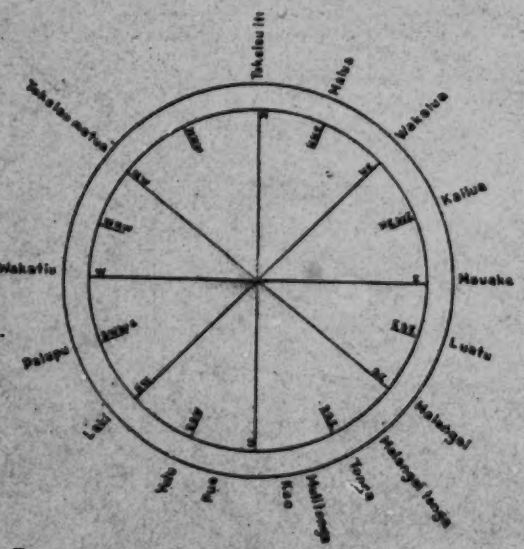

FIGURE 2.—Pukapukan winds and directions named therefrom.

821
192

The word for side or direction is *kaokao*. Hence a person says *kaokao tokelau* (northern direction), *kaokao tonga* (southern direction.) The term *punga matungi* refers to that portion of the beach which faces the direction of a wind blowing truly from *tokelau*, *tonga*, etc. To indicate precise directions when a wind is not blowing on the *punga*, the term *mao* is used. *E mao tokelau* is a wind from the north blowing a little to one side or the other of the true *tokelau* wind. This direction may be specified by adding the name of the next wind direction to the name of the *mao* wind; thus a wind blowing

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

821 192 slightly to the west of *tokelau* is termed *mao tokelau wakatiu*; one blowing slightly to the east of *tokelau* is *mao tokelau matua*. A wind that chops and changes to several points in the same day is called *matangi tilivale*; a wind that shifts to another direction to blow steadily for a week or so before changing back again is *matangi tautaka*; a wind that shifts and blows only for a day or so before changing again is *matangi tautakataka*. As certain winds are valuable as two-way winds in sailing across the lagoon and back, the winds are classified: two-way winds (*matangi alalua*) from Wale to Motu Kotawa are *malangai* and *wakatiu*, from Wale to Motu Ko they are *mauake* and *palapu*; one-way winds (*matangi alatayi*) from Motu Kotawa to Motu Ko are *tokelau* and *wakalua* and the wind for the reverse journey is *yulu*.

821 787 226 [547] Various beliefs are held about the relation of the weather to other phenomena. Black clouds (*kapuao uli*) low on the horizon, accompanied by thunder (*watitili*), are a sign that fresh fish have come inside the reef. A vigorous electrical storm was formerly considered to portend a time of violence. It was also believed to be the gods' warning of coming punishments for violation of tapus. When lightning (*uila*) strikes the ground or a tree or when a meteor (*mata uoi kave*) appears to strike the island, this is a sign that a woman has conceived a child in incest and has had an abortion or miscarriage in order to avoid a shameful pregnancy.

A rainbow (*nuanua*) breaking through black clouds and a stormy sky is a sign that the bad weather has been broken by the bars of the rainbow and will soon blow away. A rainbow cutting through the clouds in a dull sky is a sign that turtles have come to the outer beaches, or that a shoal of fish is outside the reef. If the bonito fleet is fishing and the people see this rainbow, they comment that the fishing will be successful. A rainbow seen in the early morning or late afternoon is a sign that albacore fishing is good. [613] For chiefly succession in the Muliwutu lineage the successful aspirant is the one who can make a rainbow appear in the sky when he strikes with his right hand on the sacred stone of the worshiping enclosure (*awanga ya*).

If the wind blows hard from the southeast, then moderates and swings round to the northeast, this is a sign that flying fish are abundant. When red streaks appear to shoot up to the middle of the sky at dawn, this is a sign of heavy rain and hot weather to come. A halo or house round the sun (*te wale no te la*) signifies heavy rain on the following day.

If Yina, the woman in the moon (*maina*), is clearly outlined and easily seen, this means fair weather; if she is dark and obscure, a heavy sea will make fishing difficult. The crescent of the new moon turned toward the north means fair weather throughout the moon; the crescent turned to the south is a sign of bad weather; the moon lying on its back presages hot 821 weather. An eclipse of the moon or sun (*maina kaina, la kaina*) is caused

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

137
824

Kave (Cassytha filiformis)
Lakau yili (Pemphis acidula)
Laukotawa (Asplenium nidus)
Laupoue (Ipomoea grandiflora)
Limu puniu (a moss) (?)
Maile (Polypodium scolopendria)
Moemoe (Boerhaavia tetrandra)
Mouku (Fimbristylis cymosa variety nucrocephala)

Nau (Lepidium bidentoides)
Niu, coconut (Cocos nucifera)
Ngangie (Pemphis acidula)
Ngayu (Scaevola frutescens)
Nonu (Morinda citrifolia)
Numa (Fleurya ruderalis)
Ongoongo (Euphorbia prostrata)
Polapuka (Solanum viride)
Polo (Hedyotis romanzoffiensis)
Puapua (Guettarda speciosa)
Puka (Ceodes umbellifera)
Pukama (Hernandia ovigera)
Pulaka (Cyrtosperma merkusii)

Pulumu (Jussiaea erecta)
Taeyinu (Tournefortia argentea)
Taumakomako (Achyranthes velutina)
Tiale (Gardenia tahitensis)

To, sugar cane (Saccharum officinarum)
Vavai (Triumfetta procumbens)
Vayavaya (? Lepturus repens)
Vayavaya ui (? Cyperus ferax)
Wakanava (Cordia subcordata)
Wala (Pandanus sp.)
Wau (Pisonia velutinus)
Wawa, talo (Colocasia antiquorum variety esculenta)
- kele
- kiekie
- kula
- mawolawola
- newunewu
- peleua
- polapola
- pongi

(native varieties of talo)

Welo (Ficus tinctoria)
Wetai (Psilotum nudum)
Wetau (Calophyllum inophyllum)
Wuti (banana) (? Musa sapientum)
- malie
- mitiluki
- pukapuka
- talua

(native varieties of banana)

Wutu (Fagraea berteriana)
Yamuti (Suriana maritima)
Yulu (? Pandanus)

NOTE: Of the plants listed, *pukama*, *wakanava*, *puapua*, and *wetau* are used for canoes, implements and utensils; *puka* is used mainly for canoe outriggers; the bark of the *wau* is used for fishlines and cordage (termed *wae*) for fishnets. The coconut supplies material for the woman's kilt, the man's rough *malo*, sennit cord for fishlines, anchor lines, and general lashing, also material for rough mats, food platters, baskets, house thatch. It is one of the chief foods of the island. Pandanus is used for mats, for men's malos, today for house thatch. Its wood is valuable for house frameworks, and the ripe fruit is eaten. Pukapukans distinguish in terms of leaf shape two varieties of *Pemphis acidula*: *ngangie* and *lakau yili*. *Ngangie* is the preferred wood for fishhooks, for implements and outrigger connectives, but failing this wood, *lakau yili* is recognised as a valuable substitute. Botanically the two plants appear to be similar. The flower of the *tiale* is used for wreaths and decorations. The bark of the *welo* was formerly used for decorating ceremonial headdresses. *Nonu* makes the red dye used for mat designs. All the creepers such as *moemoe*, *laupoue* and *ongoongo*, are used extensively for wreaths and decorations. The one *wutu* tree on the island is reported to have grown from a drift seed.

192

The general name for a plant is *lakau*. Root is *aka*. The trunk of a tree is *pu lakau*. A moss or lichen is *limu*. The fungoid "toadstool" growth on a fallen tree is termed *laulau talinga*. A seed is *wua*, a flower *pua*, a leaf *lau*. The name of the plant is added to these words to particularize: *wuapuapua* (*puapua* seed), *puaniu* (coconut flower), *akauula* (aerial root of the pandanus), *launiu* (coconut leaf, leaflet). The seeds of certain trees, however, have distinctive names: *pei*, seed of the *wetau* tree, and *kalaka*, *pukama* seed. The word *tiale* is used for both plant and flower of that name.

The Pukapukans are intimately familiar with the botany and horticulture of coconut and talo (pp. 81-90).

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

Animal Life

The fauna of Pukapuka is similar to that of other Polynesian atolls. The pig, chicken, and European rat were introduced after white contact. The native rat was trapped, but not eaten. The native dog was unknown.

Fish

The Pukapukans empirically group the fish in their environment first into major classes of beach fish, lagoon fish, reef fish, reef fish outside the lagoon, and deep-sea fish, and second, into "families". In some cases, the larger fish of one family are given a different name from the smaller fish of the same family. In other cases, however, stages in the growth of the same fish from infancy to maturity are indicated by adding the following adjectives to the name of the fish: *liki, lewu, tino lewu, towila,* for young fish; *towolo, towolowolo, wolo, punua, tino wolo, tapulonga, tongi* and *palu,* for the large fish. With some fish again, the two systems for indicating development are combined, the name of the fish changing when maturity has been reached. The adjective *palu* associated with fish names, applies to a fish that inhabits very deep water up to 300 fathoms, though it is similar to another fish inhabiting shallower water. Thus, *palu malau* is a deep-water fish that looks like the smaller reef *malau.* The adjective *towila* refers to small, newly-spawned fish that are driven into the lagoon shallows by bad weather.

The following list contains all the native names of fish that could be remembered by informants as being found in Pukapukan waters. Where possible I have also included scientific names, most of them obtained since I left Pukapuka by Robert Dean Frisbie. Mr. Frisbie asked a number of informants to identify the fish figured by Fowler (9). Other names I have procured from an examination of casts in Bernice B. Bishop Museum.

Akuaku: species of Belone, Strongylura, and Ablennes.
Akula panoko: Tetrapturus mitsukurii.
Akula toa: Isiophorus orientalis.
Aku pa: similar to aku tangata, but has a squarer body and upper and lower jaws of equal length.
Aku tangata: Strongylura indica.
Ali towolo: Platophrys thompsoni.
Aliki: silver mullet (? Mulloidichthys).
Ali niukatea: similar to pateletele.
Atu: Euthynnus pelamis (bonito).
Atule: Selar crumenophthalmus.
Aua: species of silver mullet, larger than the aliki.
Avu: Chanos chanos.
Ave: a long slim albacore.
Ayetoa: black deep-sea shark, sharp nose, single dorsal fin, single caudal fin, long pectoral fin, long upper fluke to caudal fin, a fast swimmer and a man-eater.
Ayiu: Caranx lugubris.
Ayole: a mulletlike fish, scaleless, white in color with a speckled dorsal fin (Polydactylus ?).
Ayou: deep-sea shark, white belly, black head, very flabby skin, four dorsal fins, two anal fins, earlike protuberance on head.
Eve: species of rock or reef grouper, with smoother skin than the patuki (? Grammistes sexlineatus).
Ie: species of Hemiramphus and Hyporhamphus.

:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

Te malu, te malu, te malu	The weak (one, "softy"), the weak, the weak,
Te wewei, te wewei, te wewei,	The lazy man, the lazy, the lazy,
Tuku loa ki te vananga	Given (out his name) in the report (of the guard)
Puke atu enuenu pe te poi[6]	Overtaken (by laziness) squashy like pudding,
E koa yinga wua ia.	Flops down completely.

Fishing

General Features

Information on fish and Pukapukan fishing methods was obtained mainly from Veti and Eliu. It has been supplemented by general observation of some of the fishing techniques described. The material is not only interesting to the student of comparative Polynesian fishing methods, but it also gives an insight into the amount of control exercised by the Pukapukan fisherman over part of his environment. This control is much more complete than the following information suggests, because the actual amount of information collected represents a mere surface-scratching of the knowledge possessed by native fishermen. Two other limitations, imposed by lack of time and by comparative ignorance of the field worker in all that concerns fishing, conspired to prevent the collection of complete data on Pukapukan fishing. The classifications adopted in the following sections are those used by informants in presenting the material. Identifications of native fish names are given elsewhere (pp. 27-31).

The waters within and without the reef are used equally in fishing. The inner waters of the lagoon are combed over and over again each day by all the methods of lagoon fishing. Deep-sea fishing outside the reef is indulged in at least twice a week, depending on the amount of other work to do, the state of the sea, the winds and the weather, and the season of the year. Deep-sea fishing is relatively poor from November to March. In former days the amount of lagoon and outside reef fishing a man did depended also on the village to which he belonged. The division of reefs and lagoon among the three villages and the exclusive control exerted over these properties meant that the men of Ngake and Yato could fish more extensively than the men of Loto.

The habits and movements of all the fish were studied and correlated with the rising and setting of certain named stars (p. 350). All parts of the reef, inside and outside, as well as the lagoon deeps and shallows, are well known in terms of fish habits. Names for sections of the reef and for the parts of the ocean immediately outside the reef are given in figure 3.

[6] The cheese are modern, hence the use of the Tahitian *pisui* for pig (first song) and *poi* for pudding (second song).

1: Bradshaw and Beaglehole B-5 (1934-5) 1936
Pukapukans

245
192

The names for the parts of a coconut tree (niu) are:

Pu niu: trunk.
Launiu: leaf and leaflets.
Kaunuiu: leaf midrib.
Tuaniu: leaflet midrib.
Palolawa: midrib butt.
Kalawa: fibers from leaf midrib.
Kaka: fibrous stipule.

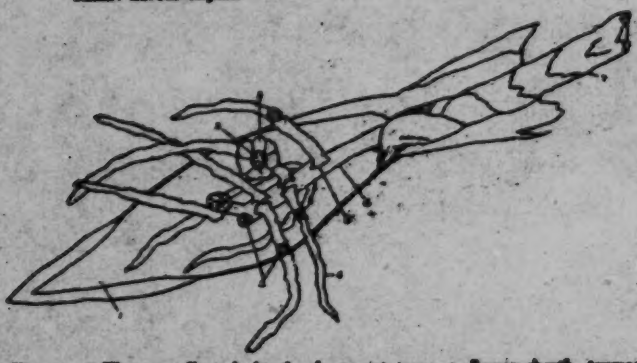

FIGURE 5.—Flower stalk and sheath of coconut tree: 1, flower sheath, *tauwa*; 2, base of bract, *uu*; 3, floral bracts, *matakiliuli*; 4, flower stalk, *haulaulaua*; 5, base of flower stalk, *pu o te haulaulaua*; 6, flower stem, *haulaulu*; 7, base of stem, *pu o te haulaulu*.

245
824
192

Names for spathe and flower stalks are given in figure 5. Informants had no ideas about the reproduction of the coconut nor could they give any names for the sexes of the flowers.

Stages in Growth

Five stages are named in the growth of the tree from the seed nut to the small tree:

Yuuu: the nut sends its roots (*akaaka*) into the ground, and stem and leaves grow upward.
Aagagau: young stem tissues (*talito*) have shot upward to a height of about 6 inches.
Uto: sprouts have grown to a height of about 2.5 feet, and the absorbing organ of the coconut cotyledon (*uto*) has filled the entire cavity of the nut.
Laaka: the tree has taken firm root in the ground and the leaves have attained a height of 4 to 5 feet.
Yuu: the leaves are growing vigorously and the young coconut tree is well established.

The 15 named stages in the growth of the fruit are:

Puu koua: the fertilized female flower of the coconut has developed into a flower bud.
Koua: the immature nut, an inch or more in length. If the koua falls from the tree, it is used in the game of juggling (*tilili koua*).

1; Beaglehole & Beaglehole E-5 (1934-5) 1938 Pukapuka

245
824
192
262

Wuaali: the nut is a little larger than koua and has a dark green husk.

Uivaka: the immature nut has grown still larger but is still not used as food. Children use nuts at this stage as crude dolls.

Moso katia: the husk is well formed; the cavity is filled with a clear fluid which is bitter and undrinkable; no flesh has yet formed. If the husk is flicked with the fingers it gives off a hollow resonance.

Mukomuko: a thin, slimy, easily detachable flesh begins to form over the inner surface of the nut. The mukomuko flesh forms inside the mesocarp at the point of attachment of stalk to nut. When the green outer husk is stripped off, the edible husk is exposed—a white, meaty substance around the outside of the eyes. Mukomuko from certain trees (niu melo, niu kawa kenakena, and niu uyi) is sweeter and more desirable than others. The fluid from the advanced mukomuko nut may be drunk but is more often added to talo puddings.

Niu katikati: the shell is harder, the flesh thicker though still slimy. The liquid ceases to be bitter and may be drunk.

Niu mata motomoto: the drinking nut in its earlier stage. The liquid is not so sweet as in the next stage. The flesh is soft and thick and is eaten after the liquid is drunk. The husk is dry and unfit for food.

Niu mata: drinking nut at its best stage. The liquid is sweet (leka) and the flesh tasty (malie). When this nut is shaken, the liquid inside can not be heard.

Niu mata matua: the nut a little past its best drinking stage. The flesh has become hard, especially about the base of the nut; but the liquid is plentiful and sweet.

Niu katea: the flesh is thick and hard; there is less fluid. The husk is darker than the niu mata, and the liquid rattles inside the shell when shaken. It is not particularly desired as food, but the liquid is drunk and the flesh eaten if the nut is husked. A nut at this stage is normally allowed to develop into a yakali nut. The flesh is specially used now as pig food.

Niu uli: the husk turns brown; the liquid becomes slightly bitter and the flesh hard. The embryo develops.

[258] Niu papaku (modern name, yakali): The flesh (ipiipi) is mature, thick, and hard. Liquid is bitter and unfit to drink. The embryo has developed into an absorbing organ. This is the stage used in copra making. The ipiipi flesh is eaten with fish or other foods in the absence of talo; from it coconut cream (lolo) is made.

Uto: the yakali nut left on the ground to germinate becomes filled with the spongy absorbing organ (uto). The liquid is absorbed and the flesh (ipiipi) is very thin or entirely absorbed. Leaves, stem, and roots develop. The uto is an important everyday food.

Takataka: stored yakali nuts. The embryo is undeveloped; the flesh thick, hard, and sweet; there is no fluid. After 6 months' storage, when the nut is dry but the flesh still fairly soft, the nuts are said to be mamaya. After a year the flesh changes its color from white to yellow-brown and the nut is described as koa ata (coloring). After 3 years the flesh is brown or red and the nut is described as koa kula (red-brown). The flesh is eaten by itself or as a food complement (kinaki) to pandanus fruit or edible mukomuko. It is also used in the preparation of coconut oil.

257 *Takataka* nuts are stored on the high platform of a storage house (*vale takataka*) in one of two ways:

In the first method the *yakali* nuts may be left unhusked (*nuti kouvu*) so that rats can not bite through the husk to the flesh within. The drying process hardens and strengthens the husk fibers which are later soaked in salt water and used to make sennit. By the second storage method the *yakali* nuts are husked and a piece of *punga* coral of appropriate size is driven into each eye of the nut, effectively closing the eyes so that rats cannot gnaw through the shell. Nuts are stored for five years or more

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

according to the quality of *takataka* desired. An excellent food reserve against hard times, households formerly had one or several houses stored exclusively with *takataka* nuts.

The various parts of the coconut are named as follows:

Mata: eyes of the nut.
Mulimuli: base of nut opposite eyes.
Pulu: husk.
Pulu kawa: husk fibers.
Kiko: endosperm when soft.
Ipiipi: endosperm when hard.
Ngaipu, plural na ngaipu: endocarp (shell).
Uto: absorbing organ.
Yua: coconut liquid.
Kanava: fatty deposit on surface of flesh of yakali nut.
Tuatua: brown sheath separating flesh from shell in yakali nut.
Uto wai kawa: unhusked nut at uto stage.
Uto: husked nut at uto stage.
Kili uto: sheath between hard endosperm and absorbing organ.
Mata uto: sprouting stem, radicle and roots together.

Harvesting

The three articles used in harvesting and husking coconuts—climbing bandage, husking stick, and carrying pole—are all described elsewhere (pp. 123, 146).

In coconut-tree climbing, the right arm is passed around the trunk of the tree and holds the body close to the trunk. The flexed left arm grips the near surface of the trunk and is used to lever the body as the climber progresses up the tree with a series of short springs. Alternatively, both arms are passed around the trunk of the tree, but the former method is preferred where speed is desired.

Throwing nuts down from the tree is termed *mako te niu ki lalo, totoli te niu ki lalo,* or *takavili te niu.* Nuts are usually harvested by young boys, occasionally by girls. The nut is grasped with the hand from below and twisted off the stem. As the nut is released, the hand is given a rotary twist (*lui*) so that the nut spins around as it falls and drops in a vertical line. It hits the ground on the base of the nut and does not split open with the impact. The spin also prevents the nut from rolling when it hits the ground and so becoming lost in the undergrowth.

Whenever a special gift of nuts is to be made, the nuts are lowered in a cluster from the tree, so that none will be bruised. They are given to the recipient unhusked. Besides receiving a gift with this special mark of status, the recipient receives also the edible husk of the nut.

From 20 to 40 nuts are usually harvested at one time. The husking stick (*koyo*) is next set up.

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

244 423 two beds well demarcated. When the talo grows, however, the two varieties are often so intermixed that the boundary is unclear. A single talo bed may be planted with one variety or with several varieties planted in sections running crosswise over the bed.

244 262 Any and all of the varieties are used indifferently in preparing the talo dishes. All are considered equally fertile. The only reason for planting one variety rather than another is to get the benefit of the slight differences in taste and flavor between varieties.

244 192 Native terminology for talo and *pulaka* is:

Pulaka: the whole plant.
Talo: the whole plant.
Wawa: old name of the talo corm; wawa is used interchangeably today with talo for both plant and corm.
Kau a pulaka, kau a talo: the petiole.
Tingapula: the cutting, top section sliced off the mature corm with petioles and leaves.
Lau talo: talo leaf.
Launea: pulaka leaf.
Lito: delicate young leaves protruding from the base of the innermost talo leaf.
Pikopiko: the lateral cormlet or sucker produced at the side of the corm and bearing a crown of leaves.
Aka: root.
Wuluwulu: rootlets of the corm.
Palapala: swampy mud in which the plants are grown.
Ui talo, ui pulaka: bed or garden.
Wua: talo bed of a single man, woman, or child in communally owned talo land.

There is no elaborate garden magic in the planting and cultivation of talo. New moon planting was favored to produce plenty of talo with large and good-flavored corms. Full moon planting was also good, but after a few replantings the corms tended to grow smaller. Formerly a bed was stripped (*wawai*) and replanted at the new moon, but a few tubers were removed (*matauyu*) from a field at any time.

The complete process of going to the garden, harvesting, planting, and bringing home talo is termed *tope wawa*.

144 782 412 When a woman or girl goes to the talo bed, she takes with her a coconut-leaf basket (*kete launiu*); formerly also, a turtle-bone cutting implement (*taku*). She recognizes the mature (*kiva*) corm by the yellowing and curling up of the leaves. She pulls out (*langa*) the talo plant and slices off (*tope*) the top section, tossing the corm to the embankment of the bed. She loosens the soil from which the plant was pulled, digging it up (*tohi*) with a stick (*koyo ui*). She slices most of the leaves from the petiole, usually leaving one leaf, and sets the cutting back in the ground. She tramps the soil around the slip to make it firm, planting in rows, not in hills. She throws the leaves stripped from the petioles back on the ground and tramps them into the soil. She repeats the process until she has sufficient tubers. When a whole bed is being stripped by two workers, one pulls the corm and throws it to the side; the other cuts the top section from the corm and throws it back to the harvester, who replants it. In former days after harvesting sufficient talo, the worker set aside from 4 to 10 corms for the gods of the garden, saying, "Matalolau e, Matalomea e, here is your share of talo to help increase the yield of my garden." Then the cuttings from these corms were

I:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

282
244
482 replanted, and the corms themselves buried in the ground and left for the gods. The workers place the corms in their baskets which they carry to the village balanced on their heads (*tuku ki luuga o te ulu*).

242
231 There is no rotation of talo with other plants nor any system for leaving lands fallow between planting. At the time of greatest famine after the seismic wave, cultivation was alternated between reserve land and private talo beds to ensure that each bed of talo was put to best use and that the corms were allowed to mature properly.

244
415
314 Cultivation further consists in weeding (*langai i te vayavayo ui*) and fertilizing (*nukalepo* or *tilikao*) the talo beds:

> The gardens are weeded by women about once each month during the early stages of growth. Weeds are tramped into the soil or allowed to rot on top. When six or seven leaves are fully unfurled, the beds are fertilized with *pukamo* leaves, *lau kotamo* fern, grasses, coconut leaves, or any other vegetable matter. The fern leaves are cut off at the base of the plant and wrapped for transport in coconut-leaf mats (*polapola*). All the subsidiary branches are cut from the *pukamo* tree, and the leaves stripped by hand from each branch and placed in baskets. The branches are replanted or dried and used as firewood, canoe poles, etc. The vegetable matter is taken to the garden and spread over the ground around each talo plant. Some is tramped in, but the larger vegetable matter is allowed to rot on top. This is mainly women's work, but the men sometimes assist, especially in the cutting down of the *pukamo* branches. Normally there are about two crops of talo from each bed during each twelve-month period. This means fertilizing each year about two months after each planting.

244
192 In the old days a little dryland talo (*kape*) was cultivated. Killed by the tidal wave, it has not been replanted.

At least eighteen stages in the growth of talo or *pulaka* are recognized:

Teki te tingapola: the cutting is planted.
Po lua, koa tupu te aka o te wawa: 2d day, the roots grow.
Po tolu, koa velo te lito: 3d day, the young leaves begin to protrude from the base of the innermost petiole.
Po lima, koa loa te lito o te kau: 5th day, the young leaves grow tall.
Po angaulu, koa velo te lito wou: 10th day, new petioles and leaves shoot up.
Taeyao atu, koa kau lua: the next day, there are two petioles and leaves.
Koa velo mai te tolu o te lito: (15th day) the third petiole and leaf start up.
Koa kau tolu: (20th day) there are now three petioles well grown.
Koa kau wa: (22d day) there are four petioles. This is the time to cultivate and fertilize the young talo.
Koa kau lima: (23d day) there are five petioles growing.
Koa walcalaungavali: (24th day) the leaves sway freely in the wind.
Koa toaki te kau lima, koa uyi, koa tupu mai oki te lau kaua, koa ono lau talo, koa ola: (30th day) petioles spread and darken in color, the leaf grows large, there are six main leaves, the plant flourishes.
Koa utouto ki luuga: (35th day) the petioles grow high.
Koa ola loa ki luuga: (45th day) the petioles grow high indeed.
Koa taku te ulu: (2d month) the head is left, the petioles and leaves stop growing, and the corm begins to grow.
Koa matapu te wawa: (3d month) the corm is two finger-joints long.
Oko ki te vavenga o te wawa: (4th and 5th months) the time when the corm grows rapidly.
Koa kivi, koa wowolo: (6th and 7th months) the corm is mature and large.

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

501
192

The Pukapukan *tui tuta* canoe is shown in figures 24, 25, 26 and plate 5.A. The native names for parts of the plank canoe are given in the following list:

Mua vaka: fore section of hull.
Wualoto: central section of hull.
Muli vaka: aft section of hull.
Oa: washstrakes.
Velo: stern cover, shaped like fishtail.
Laulau velo: after projection of stern cover.
Talamoko: raised cleat on stern cover.
Wakakauvae wonu: raised bait deck on stern cover, fashioned from cover or built up with extra wood.
Tuku: place inside wakakauvae wonu where bait and line are laid.
Kalemu: extreme after point of after section of hull.
Tala tuki: point of bow.
Tuki: forward part of bow cover.
Puka: second section of bow cover.
Tala puka: wave guard on bow cover.
Malae puka: top of wave guard.
Pu oyo: place covered by bow cover where provisions and fishing gear are stored.
Kaukau: outrigger cross booms.
Kaukau mua vaka: forward outrigger boom.
Kaukau muli vaka: aft outrigger boom.
Kiato: longitudinal spar supporting cross booms.
Manu poto: additional short cross booms, supporting kiato and running from strakes to spar.
Ama: outrigger float.
Mata ama: bow and stern points of outrigger float.
Tutuki: connecting pegs between outrigger float and cross booms.
Tutuki tokai: diagonal bracing strut running from inner pair of pegs to boom.
Ganga: suspensory lashing supporting outrigger float.
Manu ki mua: forward lifting bar.
Manu ki muli: stern lifting bar.
Manu a lua: crossbar aft of after cross boom.
Palepale langayu: short longitudinal spars lashed on either side of washstrake to lifting bar and cross boom.
Lakau iki: lifting pole.
Tuinga iki: sennit lifting loops fastened to starboard washstrake just aft of cross booms.
Yeke: seats formed by cross booms and lifting bars.
Tau muli: rear seat just forward of rear lifting bar.
Kaukau katea: starboard side.
Kaukau ama: port side.

322
501
284

The hull is in three sections lashed together (*tuta*) with three-ply braid which passes through holes (*pu*) bored (*yuki*) through the hull with the shell implement termed *yuki vaka*. A shell borer might be lashed to a wooden holder about 6 inches long, to make the implement called *waoa*. The point of the shell was held against the wood with the left hand and the wooden holder tapped smartly (*paopao* or *tukituki*) with a mallet of *haupapa* coral or a whale's tooth (*tukituki paopao vaka*). The point was then worked gently from side to side (*luelue* or *wakiwaki*) to enlarge the hole. Tapping and working from side to side continued until a hole was made through the wood. The *waoa* was then twisted (*yuki*) and worked back and forth until the hole was of the required size. The lashing forms a crisscross pattern (*lu kawa lua*, fig. 27,*d*). Washstrakes (*oa*) are added to the hull sections with a single diagonal lashing (*lu kawa tai*, fig. 27,*a*). Where the *oa* are in several sections, the edges of contiguous

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

SOCIAL ORGANIZATION

Each Pukapukan individual belongs, by the accident of birth, to six formal social groupings: a tribe, a village, a household group, a bilateral kin group, a grouping of maternal lineages, and a grouping of paternal lineages.

The name for both the island and the tribal grouping of the people as a whole is Te Ulu-o-te-watu. Though there are definite names for village and lineage groups, there is no defining name that may be properly applied to or translated as "tribe". No Pukapukan word expresses the idea of a family; no word is applied to a biological grouping of father, mother, and children. *Wanau* refers to a man's or a woman's family of children excluding the spouse. A man refers to his wife and children as his *puna*, not including himself. A household group is referred to as a *yikuanga*, the precise meaning of which is a household lot or site; by extention, *yikuanga* is also applied to the establishment of one extended family, including land, houses, property, and persons thereof. When a person refers to a particular household group, he specifies: "na tangata o te yikuanga e nono i te nguturuale o Mea" (the people of the *yikuanga* residing in the private home of So-and-so). The word *ngutuuale* refers to one of the several separate household units of the extended family group residing on the same *yikuanga*. Analysis of the composition of the household shows that a biological family does not reside in each *ngutuuale*. The household acts as a unit in the production of food for domestic consumption but is always subsumed by a larger group when large scale economic functions have to be carried out. The bilateral kin group is called *katili*, *mackunga*, or *polipoli*. *Katili* is the word in common use, but the three words all refer to a person's maternal and paternal relatives.

To procure specific information on the various aspects of social organization a census was made of 54 sample households in Ngake and Yato villages. In Ngake I went from house to house interviewing the oldest member of each household. In Yato, where my knowledge of the household grouping was greater, I procured information without a house-to-house canvass. All disputed points as to lineage affiliation and the like were referred to a group of older men who acted as a board of judges.

VILLAGE MEMBERSHIP

Membership in a village (*lulu*) by birth, adoption, or formal affiliation gives the privilege of participating in village activities and food divisions. Every person belongs (*tau*) to one of the three villages and shares in the food divisions of that village. One asks, "Ko tau la Mea i wea?" (Where does So-and-so share in village food divisions?). The answer is "Ko tau i Mea" (He shares in or affiliates with Such-and-such a village). Because the men control village food divisions, each woman and child must affiliate through the agency of a man. Of a woman or child then, the further question is, "Ko ai ko taua?" (Who is it who sponsors her?). The mechanism of affiliation is as follows:

When a child is born, its parents and relatives decide where it is to affiliate. Generally this is in the village of its birth and residence and through the agency of its blood father. A child whose adoption is arranged for at birth belongs from infancy to

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

613 The part played by the paternal lineages in regulating marriage, descent, succession, and inheritance, and the relative importance of maternal and paternal lineages in social organization are discussed elsewhere.

Close bonds unite a man to his paternal lineage and to his burial ground. Admittedly, he inherits land, coconut trees, and houses through his father, but beyond this, there is a real sentimental bond binding a man to his paternal grouping. It is always the paternal lineage and never the maternal lineage of a man that is mentioned at the beginning of each genealogy or story; informants somehow felt that by naming his paternal lineage, the hero of the 764 story was placed and his status in the community accurately defined. The 613 resident agent has had great difficulty in persuading the people that some cemeteries are too close to the villages to accord with ideals of modern public health. The conflict has become acute when the agent has insisted that the 177 cemeteries be closed or the villages moved elsewhere. Either alternative has 364 seemed impossible to the people of the lineage affected, and in one prohibited 186 cemetery a burial was prevented only by placing the Union Jack across the already gaping grave and appealing to the loyalty of the people not to touch the sacred emblem of Pax Britannica.

The paternal lineage does not seem to possess any formal structural 613 organization. There is no council of the men of the group. Formerly each lineage had its constituted priests who worshiped the gods of the lineage in religious structures erected on lands of the group. Each lineage had a secular leader, with the rank, in a minor lineage, of sub-chief (*langatila*), in a major lineage, of high chief (*aliki*) or chief (*wui aliki*). (See pp. 234-237.) Doubt exists in the minds of informants as to whether the word *langa-* 192 *tila* is a Pukapukan word; some informants insist that it is not and that the correct designation for a minor chief was formerly *wui aliki*, a collective word also applied, apparently, to an individual. Today *langatila* and the Rarotongan word *matuiapo* are used to designate the two groups of minor chiefs.

LINEAGE AND VILLAGE

613 For feasts, sports, and games, the community divided itself into smaller 618 units based upon paternal lineage (*yolongo* unit), maternal lineage (*wua* unit) or village membership (*matoyinga* unit, sometimes called *lulu kakai*), 621 depending upon the specific activity. Membership in the *yolongo* unit is modified by the rule of patrilocal residence so that children adopted elsewhere and members of the lineage married into another village are excluded while persons residing with the patrilineal group through marriage or adoption are included.

616 Team membership for fishing and sporting contests was formerly always based on maternal lineage membership. One moiety contested against another moiety. At a later

1;Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

844 sequences enumerated that would follow if this blood came into contact with the clothes of attendants.

Care of the Mother

The delivery completed, one or more attendants take care of the mother. The others look after the child. The mother's head was formerly covered with a piece of *welo* bark as soon as the child was born, in order to prevent her hair from falling out, a precaution not adopted today.

The mother's abdomen is massaged by her husband or other male attendant, who presses out the blood. Then the mother stands and walks to the beach supported by attendants. No portion of the beach is reserved for use in confinement. The mother wades into the shallow water, sits down, and expresses blood by exerting downward pressure on her abdomen. She remains only a few minutes in the sea, and then returns to the house, seating herself on coconut husks arranged to provide a comfortable seat. Attendants apply pads of coconut fibers, which are kept in position by a strip of *lautelu* fiber, called for this purpose *tu*, passing first round the waist, then down over the pads between the legs, to be tied in the middle of the back. For the mother's comfort and support, a maternity band (*pale manava*) is passed round the abdomen and tied tightly at the back. This is generally not applied until the second day after delivery. It is not made in advance of the confinement, but is plaited by a female relative of the mother soon after delivery.

846 853

The mother sits with her legs folded under her, her knees propped up about 4 inches with coconut husks. This is believed to ease the flow of blood. With her arms tightly folded under her breasts, she presses upwards to hasten the flow of milk. In this position, called *kokowi* (to be cuddled up), the mother sits and sleeps for five nights and five days. She may lean back against a wall post or the house frame, but she may not lie down or release her tight hold on her breasts. She is allowed to stand and leave the house for the purposes of evacuation, but must continue to hold her breasts tightly. There is no prescribed place for her to evacuate; the blood in the feces is not considered tapu. At the end of the five night period (*lima po*) the milk will have begun to flow, and the mother may release her arms (*wuke na keke*, expose the armpits). She takes up plaiting and other sedentary activities, not fully resuming active work until ten or more days have passed.

Care of Infant

844 831 192

As soon as its cord is cut, those present inquire as to the sex of the newborn child, "E tama wea te tama nei?" (What child is this child?), and the attendant announces, "E ule (e wu) te tama nei" (This child is a penis, or a vagina). The terms *ule* and *wu* to denote the sex of the child were formerly commonly used; a father, asked the sexes of his children, might reply: "I have two *ule* (sons) in my family, and three *wu* (daughters)."

844

The child is taken to the sea and washed. Then it is taken inside the house, rubbed with oil and wrapped (*laulaiga*) in soft pandanus mats. It is immediately fed with coconut cream (*lolo*) in order to loosen its bowels. Later it is placed beside the mother. For at least two days the child is fed by women of the house on coconut cream whenever it cries. When the mother's milk (*yuo uu*) comes, the child is immediately given the breast (*yuo uu*). Should the milk not flow by the second day, the child is fed on *lolo* until it does flow. Informants could recall no case where milk did not come by the

853 846

I:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

tion: the patient eats only nuts, pandanus fruit, and bananas; taro is later added to the diet, but fish or flesh is taro as long as medicine is being taken.

Debility of patients grown thin and weak through prolonged illness. Place the liver of any large, edible fish in a green coconut cup, cover with water, and warm over hot coals. When thoroughly hot, remove and throw away the liver. Pound up several lengths of aerial pandanus root, squeeze out the juice, and add to the liver water. Let the patient drink this each day. The same medicine is used for renal colic.

Diarrhea. Bake ripe pandanus keys, extract the nuts, and pound up. Express the juice. To each half cup of juice, add a little dried coconut oil and fresh water. Drink the mixture at intervals until cured. A diet of pounded cooked taro mixed with drinking-nut liquid is also recommended to calm the stomach.

Filaria. Pau would only say that the main treatment consists in *lomilomi* and lancing. However, some practitioners paint an embrocation on the affected limb. The ingredients of such an embrocation are a closely guarded trade secret, but probably consist of a coconut oil base to which pandanus juice is added. Trade perfume is considered to have great virtue as an addition to such a mixture. The embrocation is applied until the swelling begins to subside. After that, nature is allowed to take its course, unaided by external applications.

Hemorrhage. External bleeding of a limb is treated by winding a length of *malo* or sennit round the limb about the wound and tying tightly. If bleeding occurs in a place where a wrapping may not be easily applied, deep pressure with the thumb is exerted above and below the wound. Either of the two following astringents is applied to the wound: juice squeezed from the husk of a coconut, or juice squeezed from the pounded roots of the coconut tree. The wound is covered with leaves of the *sowa* plant and tied with sennit. For external bleeding after childbirth and for internal bleeding, vomiting of blood, or passing of blood with the feces: express the oil from the gratings of a very red dried coconut; squeeze the juice from pounded, baked, ripe pandanus keys, and mix the two liquids; add drinking-nut water to make about two gills of liquid; let the patient drink this at intervals until bleeding ceases.

Stomach pain. Pound raw or baked bananas, mix with *talo* cream and drinking-nut liquid. About one-half pint of the medicine is drunk at intervals until the pain ceases.

Rheumatic pains (*mahi ngungu*). These are treated with *lomilomi* and an embrocation: grate a dried coconut and add to it four or five leaf buds of the *taeyinu* tree; pound up the mixture and express the juice onto the source of pain. Other leaf buds may be substituted, but those of the *taeyinu* are preferred.

Vomiting (*lua*). As an emetic, drink salt water. To allay excessive vomiting, drink about one-half pint of the internal hemorrhage medicine, until vomiting ceases.

Insomnia (*ouge moe*). Pau mentioned this as an occasional complaint, but had no specific treatment.

A vocabulary of about 200 words covering physiological processes and parts and bones of the body was also obtained from Pau, who was shown pictures of different parts of the body, diagrams of a skeleton and the skull, and asked to identify the parts he knew. These words are included in the Pukapukan dictionary.

Imperfect and irregular teeth (*ngao oyo*) are believed to result if a child loses his milk teeth before the second set is ready to erupt, for the child tends to play with his gums (*take nio*), so spoiling the second set. Many young children, aged 3 to 5 years, have badly broken or decayed milk teeth. Some have sets of stumps that appear to be worn down through hard chewing. This is an individual matter, however, because other children of the same age have beautiful, well-formed milk teeth.

1;Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

the voyagers made their departure from Nassau Island, they would fetch up within sight of Olosenga.

In sailing to the Gilbert-Ellice Islands, informants state that the navigators used Altair (Tolu). Sailing from Pukapuka, almost any course between 277° and 300° would take a canoe to a point close to one of the islands in the Ellice or the Gilbert groups. A course by Altair at setting is equal to 279°. As it rises higher in the sky its bearing swings to the north. It is visible at setting during the latter half of the trade-wind season when the weather is favorable for the voyage.

In voyaging from Samoa to Pukapuka, the Pukapukan navigators sailed from Upolu to Olosenga; then sailed on to Pukapuka using ξ, ε, and δ Orionis (Te Tolunga-Maui) as their star course. These stars would give a course of 88°, while the true course is 84°, and by taking from Traverse Tables under 4° (the difference between the true and the star course), and with the distance at 259 miles, one finds that the star course would put a canoe 18 miles to the south of Pukapuka. This is approximately at Tima Reef, which place would give a new point of departure for the canoe for the rest of the voyage. In case the canoe missed Tima Reef, due to bad steering or cloudy weather, it would still be likely to come within sight of Nassau or Pukapuka; and even if it missed all three landfalls, it could scarcely fail to come within a point 30 miles to the north or south of one of the islands, which point would be within sea-flight of the white terns—the sign of land. Hence, in sailing from Olosenga to Pukapuka, a distance of 259 miles, the navigator has a cross section of ocean, lying at 45° angle to his course, 110 miles long, in which to make his landfall.

Stress is laid on this point, for, to a casual observer, it seems little short of miraculous for a canoe to pick up a tiny atoll in mid-ocean. As a matter of fact, in the above case, it would be remarkable if the voyagers missed one of the two islands or Tima Reef.

Finally, the Orion's Belt course from Olosenga to Pukapuka is peculiarly advantageous as these stars are visible to eastward during the early part of the hurricane season when the winds are favorable for the return voyage. Later in the hurricane season—February and March—the winds are also westerly, but it is doubtful if a canoe would attempt the return voyage during these stormy months and, moreover, Orion's Belt would be too high in the sky to be used as a bearing. It is most likely that the return voyage would be made in December, when the winds are light from the west and Orion's Belt is low in the sky to eastward at sunset.

COUNTS AND MEASURES

The Pukapukan system of counting follows the general Polynesian system. It shows a high development of number prefixes used when counting different classes of objects. The list of numerals is:

1.	Tayi	20.	Lau lua
2.	Lua	30.	Lau tolu
3.	Tolu	100.	Lau
4.	Wa	101.	Lau ma tayi
5.	Lima	111.	Lau ma laungaulu ma tayi
6.	Ono	200.	Lua lau
7.	Witu	300.	Tolunga lau
8.	Valu	400.	Wanga lau
9.	Iva	1000.	Mano
10.	Katoa or laungaulu	2000.	Lua mano
11.	Laungaulu ma tayi	10,000(?).	Tini
12.	Laungaulu ma lua	100,000(?).	Ngaulu tini

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

802 193 The word *katoa* is used for ten in simple enumeration. It is never used in conjunction with the name of the object enumerated, but in its place *launga ulu* is used. Where the special counting prefixes are used, these are added to the suffix *ngaulu* to indicate 10 objects of whatever class.

802 192 Numbers higher than *ngaulu tini* in progression of numerical greatness are: *manomano muamua, matinitini, makelekele,* and *ye,* which is an expression that corresponds to infinity. The number of terms that the Pukapukan uses to indicate high numbers is interesting though it is a little hard to see the function of high numerical concepts in an atoll culture.

It was a favorite jest among informants that the Pukapukan could count to a higher power than we could; proof of this they argued was not only the presence of words indicating progressions to infinity, but also the ability of the culture hero Maui to find Pukapukan words which enabled him completely to enumerate the stars in the sky, the fish in the sea, the sands on the beach, and so forth. It is likely, however, that such words as *tini, ngaulu tini, manomano muamua* indicate not so much a definite number as a progression of increasing greatness that is more sensed or felt than definitely apprehended.

802 193 To indicate "more than" or "plus" to even numerals, *tu ma* is suffixed to the numeral: some 70 people (*tinowitu tu ma*). To form numerical nouns from the numerals 1 to 10, *ngawa* is suffixed to the number: I have received my three (*na maua toku tolungawa*). Each is *taki*; one person or object each: *takitayi*. The prefix *tokitaki tu* is used of things to indicate "one by one", "one at a time", and so forth: *tokitaki tu tayi, tokitaki tu lua*; of people the prefix *takitau* is used: *takitau tokalua,* by twos, or, for each pair.

802 192 To count is *kaui or wakalau*. A special set of terms is used to count coconuts by pairs (*oaniu*). One pair of drinking or mature nuts is *tayi oaniu*. From this on the counting runs:

Lua: 4 nuts.
Tolu: 6 nuts.
Wa: 8 nuts.
Yepulupulu: 10 nuts.
Ono: 12 nuts.
Witu: 14 nuts.
Valu: 16 nuts.
Iva: 18 nuts.
Yasa: 20 nuts.
Tolu: 30 nuts.
Wa: 40 nuts.
Lima: 50 nuts.
Lau: 100 nuts.

802 193 The development of counting prefixes is indicated by the following list. To count people, the prefixes are:

Toka, counting people from 1 to 10: e tokatolu tatou, we are three.
Tino, counting people from 10 upward: tinongaulu, 10; tinowelau, 100 people.
Matino, used solely for counting the priest members of a god house (*wale atua*): matinotulu, three priests; matinowitu, 7 priests.

Inanimate objects or creatures other than human beings are counted with the following prefixes:

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

COLORS

192 822 151 The Pukapukan has little need to distinguish fine degrees of color gradation. The environment is monotonous in color scheme: white coral sand, dull green of coconut and other tropical trees, blue sky and sea. Tropical reef fish are of course a riot of bright, variegated coloring, but they are easily distinguished in terms of shape, number of fins, and so forth. In general, therefore, the Pukapukan is content to distinguish one or two colors like red or brown and blue or yellow. These with black, white, and a term for variegated coloring are ample for his needs, because color terms can be duplicated and combined with other terms to give an approximation to a desired degree of saturation. Terms for a commonly used color series are:

Kula: red.
Kulakula: brown (as the hair).
Kula ulisli: very dark red-brown.
Kula keye: deep red.
Kula lolenga: greasy (?) red.
Kula melo: scarlet.
Kula melomelo: reddish.
Kula pungipungi: brownish red.
Kula toto: blood red.
Kula yiyim: shiny red.
Melomelo: yellowish.
Yengayenga, yeyenga, pa yengayenga: blue or yellow or a mixture of these two colors.
Uyi, uyiuyi, pa uyiuyi, uyi koka: dark greenish.
Mumuku, mumumu, litolito, kena, kenakena: white.
Mahalele, mahavakevake: blinding white surface.
Ten: white, used only in proper names.
Kaligo: iridescent.
Kokowe, kowikowe, koyikuyi: striped or variegated.
Uli (general word), **uli popo, ulisli, pa ulisli, ulinotumotu, ulimangiloli, uli koka, uli popokawa**: black and various saturations of black.

Informants found it impossible to compare exactly any of these adjectives with European colors, though perhaps a deeper investigation may establish a few exact correspondences. Informants were unable to agree upon the color name for a yellow pencil, some believing the color to be *yenga*, others *lenga*, a Rarotongan word meaning blue. Similarly, informants had no word to define the color of a piece of white paper. They called it *kena*; but the same word is also given for the color of pandanus (*lito*) plaited mats, which is usually a very light saturation of yellow. Informants defined the color of white clouds as *mamake*, which seems to mean perfectly clear and soft. The tendency perhaps is to describe colors in terms of surfaces or relative degrees of saturation, which must be increased greatly before another color results. Smaller increases of saturation are simply described by duplicating the basic word or parts of the word.

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukan

539
173

Muliwutu, then to the houses of Yangalipule. At each of these houses he threw stones and called, but none would waken. At his own house none would waken. At last he came to the houses of Yamaunga. He threw stones, and two men came outside. These two were the brothers who had taken the child to Yayake. Kuluea said, "Why do you sleep so fast? I have seen something terrible and we are likely to be all killed." Meantime the three strangers had been seen going back to their canoe. The chief told the two men to stay on the reef near the canoe and to kill everything they saw in the water, even if it meant striking at drift rubbish.

The three Pukapukans consulted their gods and then went out to the reef. Kuluea dived into the water, swam to the canoe, and cut the anchor rope. The canoe quickly drifted away and soon drifted as far as Witi (Fiji?). When Luaivaipapa found out what had happened, he woke his sleeping men. "Pick up your paddles and give one mighty stroke," he said. The men obeyed, and with one stroke the canoe came back to Pukapuka. They dropped anchor again and went to sleep. Seeing them, the chief again cut the anchor rope. Three times he did this, three times the canoe drifted to Witi, three times with one paddle stroke the canoe came back to Pukapuka. After the third time Luaivaipapa watched carefully instead of sleeping; he saw the chief coming to the surface after his dive from the reef. He struck Kuluea with his foot, and so powerful was the blow that the chief was pushed to the bottom of the sea, where he fell on the ocean floor, alive but so crushed as to be helpless.

The god Kui saw the crushed chief. Kui gave Kuluea *lomilomi* treatments and brought him back to normal. The chief stood on a rock at the bottom of the ocean. With one mighty push he hurled himself to the surface with great speed. His head smashed into the bottom of the Tongalelevan canoe and split the canoe into fragments. Standing on one piece of the broken canoe, Kuluea knocked into the water the god house, the representatives of the gods inside the house, and all the people. The crew called out to their gods to save them, but the gods were helpless before the Pukapukan gods. Kuluea killed many of the men; the rest were killed by the two Pukapukan warriors waiting on the reef.

To revenge the death of their nephew, the two Pukapukan warriors later went to Yayake. They landed and killed all the people on the flat lands by the sea; then they went inland to the mountains and killed other people living there. They came to the copulating places (*you*), and like their Tongan predecessors, they killed the people congregated in them. When they came to the village of Tuyiyauola the chief threw magic stones at them, but these failed to kill the Pukapukan men. When the chief discovered that the men were determined to kill him, he stamped his foot on the land, and the land was separated into two pieces, one of which was called Matiku, the other Rarotonga. The two Pukapukan warriors drifted away on the land called Matiku, and in the end came back to Pukapuka. Tuyiyauola remained on the part of the land called Rarotonga. This was the end of the Yayake people.

173
191
192

There are several interesting points in this story of the chief of Yayake. The word that the Tongalelevans used in praying to their gods when their canoe was smashed to pieces is remembered as "tulou". This word has no meaning in the Pukapukan dialect, but the same word is used in Samoa when entering a god house. All accounts of Yayake mention the places called *you* where groups of people met together for copulation. The same institution functioned in Pukapuka, but it is said to have been introduced from Yayake. *You* is recognized as a foreign word for the name of these places, the native Pukapukan word being *ati*. It was impossible to get details or an interpretation of the five-platform house of Tuyiyauola. Other accounts tell of a place in Yayake called Te Maunga-wiwi, where two mountains

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

come together at their peaks to form a sort of arch or tunnel through which canoes may sail. On another occasion a warrior from Yayake named Te Palo visited Pukapuka where he introduced the four-sided gaff sail that is known by his name.

It seems impossible to decide to what land, if any, of the Pacific the word Yayake refers. The cognate Samoan word *sasa'e* refers to the east, though the Pukapukan word for this direction is *ngake*. Informants today state that Yayake refers to Tahiti, though they admit that this has been suggested to them by visitors. Also, the word Yayake may either mean a land to the east of Pukapuka or a land from which one sailed east to reach Pukapuka. The matter may be left until further accounts of canoe voyages away from Pukapuka have been given.

Some time after the defeat of the Tongalelevans a canoe came to Pukapuka from the Tokelau Islands:

> The captain of the canoe was Te Anu; other members of the crew were Kavalele, Kualeu, Tapotoa, and a man whose name has been forgotten. All five were medicine men (*kau wowotu*). This canoe landed at the channel on the west side of the atoll. The passage made by Te Mutu had been quite straight and therefore dangerous because the tidal currents ripped out through it strongly. The newcomers curved the channel and thereby slowed down the current to make a safer passage through the reef. The Tokelau men brought with them a dried medicinal plant (*lenga*) somewhat similar to a red ginger plant. It was hung from the roof of the house by a sennit string. The perfumed, thick, red oil that exuded from the plant was used by the Tokelau men as a principal ingredient in their medicines. This plant never grew in Pukapuka.
>
> Besides their skill as medicine men, the strangers possessed other, more magical powers: they could see across the ocean to the Tokelau Islands; they had the power of transporting their bodies to the reserves, leaving only their shadows behind on Wale, and this they did when they wished to steal food from the reserves without allowing anyone to know that they had committed theft. Little is known of their stay on Pukapuka. The men did not settle down or marry Pukapukan women. They left and went back to their home islands. There is a house site in Loto known as Kualeu and another place called Pupuya (Scent—of *lenga*), and by these two names their visit is remembered today.

Contact with Nassau

In the time of Kuluea and Wue, seventh and eighth chiefs, close contact was maintained between Pukapuka and the island of Nassau, 40 miles southeast. The Pukapukans believe that they own this island and give the following accounts:

> Ngalewu was a Pukapukan man who was put in charge of Nassau by the god Mataliki. Hence the saying "Na tai o Ngalewu" applied to a fair wind and calm sea on the south and east sides of Wale, the implication being that Ngalewu controlled the wind and sea of this part of the atoll from his strategic position on Nassau. Tima was a warrior who came to Pukapuka from the land called Aitutaki. He sailed on to Nassau but Ngalewu saw him and chased him away. Tima came to the submerged reef that runs west from the atoll but Ngalewu chased him from this place also, so Tima went back to Aitutaki after giving his name to the reef, Te Toka-o-Tima. The name of Nassau at this time was Te Nuku-o-Ngalewu. Some people from Pukapuka

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

overboard and drowned. The survivors set out to explore the reserve and ate *pulaka* tubers from the gardens. They were found a day or two later by men from Yato who went to the reserve to catch birds. The strangers were taken to Wale, well cared for and given to the several lineages to be looked after. Tata, Tualangi, and Pailoa were adopted by i Tua; hence the two men were assisting Alatakupu on the visit to the reserve. Telua was given to Yamaunga, and Tokoua to Muliwutu. The unmarried man and women soon found Pukapukan mates. The two men were killed in the fight on Ko, but Telua and Tokoua had children, and their descendants are mixed with the present Pukapukan population. (Note that the strangers had to be adopted by the paternal lineages before they could have status in Pukapukan society.)

That this drift voyage from Manihiki to Pukapuka was not exceptional is shown from a report of Gill (12,p.29) who landed on Nassau in 1862 and found there remains of a settlement of people from Manihiki, six men and one woman, who had set out in 1859 or 1860 to sail to Rakahanga and had drifted to Nassau. The castaways lived on Nassau for two years before being returned to Manihiki by a passing vessel.

First White Contact

It was during the time of Alatakupu that the first white man's ship (*payi*, a European boat with two masts) came to Pukapuka:

> The men of Pukapuka, organized on the *matakawa* basis (p. 374), went out in canoes to meet the boat. The *yiliyili* coconut midrib was thrown at the strange vessel, and because it was not returned, this was taken as a sign of peace. Two men of the advance canoes scrambled up the high sides of the boat and onto the deck. These two were Tawaki, a warrior of Yalongo and Kaleva-motu, warrior of Yangalipule. Other canoes came up with mats and coconuts which were passed up to the boat to be exchanged for the white man's goods. The two reserve canoes likewise came up, and a brisk bartering was soon in progress.
>
> Profiting by the confusion on the deck, Tawaki cut away pieces of rope from the rigging and threw these into the canoe. Then he picked up wire, iron, nails, anything in fact that he could lay his hands on, and threw them overboard. Becoming more daring still, he walked up to the captain, who was smoking a pipe, and took the pipe from his mouth to inspect the strange object. The captain resented this freedom. He went below and came up with a gun (called by the Pukapukans *ngawaliwali* because it resembles a detumescent penis). Tawaki had gone to the bow and was busily cutting off a piece of rope when the captain saw him again. He pointed his gun at Tawaki, but Tawaki did not stop. Then the captain fired and Tawaki dropped dead. The crew produced guns and drove the Pukapukans over the side. The body of Tawaki was lowered into a canoe, and the fleet sheered off from the strange vessel, which hoisted sail and slowly drew away from the island. The body of Tawaki was brought ashore amidst much weeping and buried in his own cemetery. The iron and ropes were divided among all the men of the island.

The Regency

Tuiva's regency was in general a peaceful period. He realized that much of the trouble in the time of Alatakupu was due to the fact that the old men had found time hanging heavily on their hands and invented mischief to make life more interesting. Tuiva therefore refused to admit to the old men's age grade any person who was not "crawling with age".

538 and then of the punishment or killing of the man-eater by
266 another man or group of people. The punishment, which is
578 often as ferocious and brutal as the original crime, is related
154 by the narrator with great emphasis and graphic detail.

It will be noted that cannibals in these stories are exceptional persons, usually in foreign lands; only in three instances is Pukapuka the locus of the incidents (the stories of Te Atuapula, Witielo and Papalangi). The Pukapukans themselves say that their ancestors did not indulge in cannibalism at any time in the history of the atoll, and this statement seems to be substantiated by the absence of incidents of cannibalism in stories about historical personages. It is in these almost mythical tales about man-eating persons that one finds the only approach in Pukapukan culture to what has been termed elsewhere the "wihtigo psychosis", a psychotic craving for human flesh. In these stories the death of the man-eater is invariably accompanied by much apparently sadistic cruelty in which the cannibal is pounded apart piecemeal. The relatively large number of these stories in the folklore and traditions of the Pukapukans must be significant, and it is likely that their telling provided and provides even today, an outlet for repressed homicidal and sadistic tendencies, which might otherwise break out into actual violence, which would be especially dangerous because of the small population cooped up on the tiny atoll. Accounts of apparent group homicidal mania have been given previously [see 1: Beaglehole and Beaglehole, pp. 391-393, category 116--analyst]; these might perhaps have been more numerous but for the vicarious
[155] satisfaction provided by the man-eater type of story.
[192] Another point of interest is the possible significance of the "eating" concept prefixed to many and various phrases: ule kaina or wu kaina, "penis (desired) to eat, or vagina (desired) to eat", used as a greeting of especial warmth to an esteemed person, or to a younger person from whom a favor is desired or received; kaina e te miti, "eaten up by dreams", of a person who has had many dreams in one night; kai wale, "eating house" and kai wenua, "afterbirth eating", applied to a person who has committed incest; kai palanga, "eat feces", an oath or term of scorn; kai pulu tau tape, "eat menstrual pads", an oath or insult; kai used as a synonym in chants for the act of coitus. In all these foregoing is an association of the mouth with either desirable or horrible things, or acts, an association perhaps to be explained only in terms of analyti theory.

It may be noted finally that the Pukapukan idiom to express the idea of "revenge", is the phrase langa te imu (prepare the

533 phrases or long developmental sequences. The total number of
195 chants remembered today in Pukapuka must run to several thousand. Some two hundred of these were recorded for us by natives, notably, Talainga of Ngake village. This explains the weighting of chants from Ngake in the following selection. Of those collected, a random selection was made for the first 25 chants translated, the remainder were selected to illustrate chant types. In the time available it was possible to translate with informants only fifty chants. From the nature of the
[126] symbolisms and cryptic expressions present in each and every chant, it would be presumptuous to attempt further translations of textual material at hand without the controls exercised by the presence of a few of the best of the informants and their interpretations of obscure passages and symbolisms. It is to be clearly understood that all explanations in the following translations are presented just as they were given by informants

Vowel changes occur in certain words in all the chants. These have been recorded only in the chant of the pinga type: Na ulu toku manako and illustrate the type of change preferred. The tendency is to eliminate diphthongs, thus achieving a more even flow of sound, and to reduce, by elision or alteration of the vowel sounds, the total chant to a general pattern of sound. Thus in the pinga mentioned, the general sound pattern of vowels is u; and in consonance with this, "te ulu" is reduced to "tulu," the first vowel being long. Besides the changes occurring in the pinga, the following changes are also common:

The prefix waka	becomes	aka	na	becomes	nu
au	"	u	yau	"	yu
mai	"	mi	yau	"	yo
tai	"	ti	kakai	"	kakayi and kaki
tau	"	tu	totoi	"	totoyi
nei	"	ni	tautapa	"	tutapa
ai	"	i	lelei	"	leli
kai	"	ki	lelei	"	lele
pau	"	pu	aumai	"	umi
lau	"	lu	kalou	"	kalu
te	"	tu	peleua	"	pelua
wainga	"	winga			

128 Technical difficulties of translation aside, the further problem
533 arises of the form in which the chants should be presented, that
192 is, whether the translation should be literal or free. A literal translation is the best possible introduction to the ideals of Pukapukan culture, but it may lead the reader astray unless he realizes fully that the weighting of words and concepts is entirel

128 different for the Pukapukan from the weighting of the same
533 words for the Western European. A word that is neutral, that
192 has no overtones of meaning or emotion for the Pukapukan may have many overtones for the average European, and more specific overtones for the individual European. To translate freely the many references in the chants to activities associated with sexual intercourse would give an entirely false idea of one of the most characteristic features of Pukapukan culture. To translate them accurately, is to impinge on the innumerable emotional overtones which swell and eddy about the ideas of these activities in the mind of the average European; this again gives a false idea of Pukapukan realism because these words, activities, and concepts are on an average neutral words for the Pukapukan, weighted down by few overtones. Their familiarity to, and use by, the most immature child is certain proof of this. Professional conscience has dictated that the following translations err on the side of accuracy. They can only present a near approach to the ideals of Pukapukan culture if the problem of relative weighting of words is kept severely to the fore.

Chant for a Sacred Maid (1)

539 Yakili ipo au mai Loto	I searched for a sweetheart in Loto
Ki te leleinga o Te Tokolangi,	One with the beauty of the flowers of Tokolangi Islet, (2)
Koa wakina au, utangia ki lunga o te vaka o Tona ma Taea.	The flowers that I picked and loaded onto the canoes of Tona and Taea.
Toku yana e atule tauila	My beloved is as a young atule fish

1. This chant is of the type called kupu. It was composed about a hundred years ago, by a man whose name is not remembered, for Muluka, second daughter of the high chief Kaiti of Loto village. The fancy of the composer compares the girl to a mayakitanga, sacred maid, a position held by her older sister. The sacred maid was, by virtue of the sheltered life she led, the island's beauty. For a description of the status and functions of the sacred maid see [1:] Beaglehole [and Beaglehole, pp. 237-239, category 116--analyst.]

[773] 2. Legendary land at the edge of the sky, discovered by the voyagers Tonu and Taea and famed for the beauty of its flowers. See[1:] Beaglehole [and Beaglehole, p. 401, category 116--analyst].

Field Notes: Pukapukan Dictionary

192 I. Physiological processes and parts of body named by in-
826 formant Pau:

abdomen	manava
adam's apple	kopu
amniotic bag	iko or kawu
amniotic fluid	lanupa
ankle	ponaponavae
anus	pu lemu or kanokano
armpit	keke
belch	wakamapui
bladder	lau matangi
brains	pe ulu as in the phrase "Ka ni o pe ulu la?" Have you no brains?
breast	wu
breast, upper part of	tua wu
breast, lower part of	alonga wu
breast, space between	va wu
breath	ao
bruise	weweu
buttocks	tua muli
calf of leg	kiko kau lilikinga or puku vae
cervix	wiwi
cheek	kaponga
chest	vakavaka or uma
chin	kauvae
chin, double	kolokolo
clitoris	yoko or talakelake
choke (on bone)	laoa
colon	taipili
congestion (windpipe)	kakikapi
crowsfeet	ala mata
detumescence	toka
ear	talinga
erection of penis	makau to ule, or talanga
erection of clitoris	makau te yoko
eruption (skin)	kili mawune
eruption (tongue)	a
eye	mata
eyeball	ua mata
eye, iris	mouli or kano mata
eye, white of	kena mata

7: Beaglehole--2 E-5 (1934-5) 1953 Pukapukans

192	eye, pouch below	kalu
826	eye, pupil	uli mata
	face	mata, tupu, or ongaonga
	faint	ikotu
	fallopian tubes	wakaki tinga (hurts when full)?
	fat (body)	ngako
	fetus	wita
	finger	mangamanga lima
	finger, thumb	mangamanga lima matua
	finger, index	mangmanga lima loa
	finger, middle	mangamanga loto
	finger, ring	mangamanga tolewu
	finger, little	mangamanga lewu
	flatulence	taeyu
	flesh	kiko
	foot	papa vae
	foot, sole of	kili vae
	foot, ball of	kili mulivae
	foot, arch of	kili vokonga vae
	foot, instep of	tua vae
	foot, heel of	mulimuli vae
	forehead	lae
	foreskin	kili ule
	freckles	yilayila
	gall bladder	au
	glans penis	wakatala ule
	halitosis	ngengele
	hand	lima
	hand, palm of	alonga papa lima
	hand, back of	tua papa lima
	heart	watu manava
	hiccough	tokamauli
	hymen	kili pupuni te pu
	internal organs	ngakau
	intestine, small	mangalongalo
	kidney	kiko tua
	knee	tulivae
	labia majore	lau ngutuwu
	labia minore	ngutuwu lua
	larynx	manga lua kopu
	leg	vae
	lip, upper	lau ngutu ki lunga
	lip, lower	lau ngutu ki lalo
	liver	ate

lung	mama
lung, inspiration of	mimiti
lung, respiration of	pupuyi
membranes	kalava
milk of breast	wu
mole	mea tupuni
mons veneris	pali
mucus from the nose	pe iyu
nail, finger or toe	matitiku or maititiku
nape of neck	ua or ngati
nape of neck, fat below	tupanaka
navel	pito
navel cord	pito
nipple of breast	mata wu
nose	iyu
nostril	pongaponga iyu
oesophagus	e ala no te ngakau matua
os uterus	puwiwi
ovary	mape
palate	tua ngutu
penis	ule, kavi or niwi
penis, slack	ule mate, or ule malulu
placenta	wenua
pubic hair	kava
pulse, fast	koa vivili te uaua
pulse, slow	koa panapana te uaua
secretions, female	vale or lenga
semen	nene or kamonga
skin	kili
skin, wrinkles on	ala kili
spittle or saliva	yuvale
sputum	valinga kau
stomach	ngakau matua
stomach, rumblings of	ngalue
tears	yua mata or loi mata
temple	lawilawinga
testicles	layo
testicle gland	wua moko
thigh	tenga
throat	kolokolo
toe	mangamanga vae
toe, big	mangamanga vae matua
toe, second	mangamanga vae loa
toe, third	mangamanga vae loto

192	toe, fourth	mangamanga vae tolewu
826	toe, little	mangamanga vae lewu
	toe, ball of	kili mangamanga vae
	toes, space between	va mangamanga vae
	tongue	alelo
	tonsils	wolo manga (big yawn?)
	urethra, male	yekenga mimi
	urethra, female	pu mimi
	uterus	moenga tamaliki
	uvula	pakiko
	vagina	wu or tole
	waist	taukupu
	wind pipe	kaki

II. Names for various bones of the body recognized by informant Pau:

bones in each toe	ivi mangamanga vae
metatarpal bones of foot	ivi likiliki wononga
os calcis	ivi mulimuli vae
fibula	ivi ulu manu
tibia	ivi ulu matua
patella	ivi pupuni tulivae
femur	ivi tenga
ilium	ivi pulapula
thigh bone	ivi tenga
pelvis	ivi pali
backbone, spine	ivi papatua
caudal bone	ivi mulimuli or pulapula
vertibrae	wononga ivi papatua
ribs, floating or lower	ivi manunu
ribs, upper	ivi vakavaka
ribs, upper top section	ivi vakavaka ki lunga
ribs, upper middle section	ivi vakavaka ki lolotonu
ribs, lower section	ivi vakavaka ki lalo
sternum	ivi matua no te vakavaka
clavicle	ivi pokoivi
scapula	pokoivi
humerus	ivi pokolima
ulna	ivi ulu manu o te lima
radius	ivi wolo o te lima
elbow joint	ivi tuke lima
wrist joint	ivi wononga taulu lima
metacarpal bones	ivi papa lima

192 826	spinous process in vertibrae	ivi kaykayo
	neck vertibrae	ivi ua
	atlas vertibra	ivi muli ulu
	crown of skull	papa ulu
	occipital region of skull	muli ulu
	parietal region of skull	tau muli ulu
	region about coronal suture	puyo ulu
	sutures in skull	ngutu papa ulu
	frontal bone	lae
	frontal bone, upper section	tua lae
	frontal bone, forehead	muamua lae
	frontal-temporal ridges	tipi lae
	frontal ridge (on which glabella located)	ivi va mata
	nasion	ivi manunu iyu
	temple bones	tua mata
	supra-orbital ridges	ivi kokotinga mata
	outermost section of eye socket	ivi yikunga mata
	zygomatic arch	ivi tua kaponga
	mastoid process	ivi tua talinga
	nasal bone	ivi iyu
	styloid process	ivi kaponga
	lower mandible	ivi kauvae lalo
	upper mandible	ivi kauvae lunga
	hyal process	ivi alonga kauvae
	muscle	yakali or uaua, described in terms of the various bones with which they articulate
	artery, gland, vein	Uaua toto or uaua matua, described according to the part of the body. Uaua toto is the precise name for an artery or vein. Uaua matua is the precise term for a lymphatic gland. It is believed that the lymphatic glands are filled with a type of water and not with blood.
	tendon	ivi tamo wononga

192 826 Names for the teeth are the same for upper and lower jaws:

wisdom tooth	ngao tautawa
first molar	te lua o te ngao
second molar	te ngao o te lolotonu
bicuspid	te ngao openga
canine	te ngao nio
incisor	te nio
two front upper incisors	te nio pala ta
upper set of teeth	atu ngao ki lunga
lower set of teeth	atu ngao ki lalo
milk teeth	te ngao tamaliki

192 833 III. Miscellaneous sexual terms:

839 sexual excitement	waka mitamita
cunilingualism	kai tole
fellatio	kai ule
berdache	wakawawine (descriptive)
buggery	tokotoko
masturbation	mulimuli ..... to rub organs is milimili

192 513 IV. Types of sleep:

itching or scratching sleep	moe kinikini
bad sleep or nightmare	moe kino
restless sleep (as of a pregnant woman)	moe kinokino
to sleep on the side with legs folded over each other	moe kokopi
to sleep curled up	moe wakakukukuku
good deep sleep	moe leka
day-dreaming	moe manatu
to sleep with one eye open	moe mata tai
to sleep anxiously dreaming of the morrow	moe wakamiti
to sleep sitting up	moe no
to sleep close to another person	moe wakapipiki
to sleep hugging another person	moe pulupulu

192	very deep sleep	moe nanau
513	to doze	moe wakatalianga
	to sleep standing	moe tu
	restless sleep	moe tuitui
	to sleep with head on knee	moe tulivae
	to walk in sleep	moe yaele
	to sleep on side with legs outstretched	moe yayae
	to sleep with arms against the sides (like a corpse)	moe yayako
	to sleep badly because of physical pain	moe yoya
	to sleep with eyes open	moe yiyila
	the sleep of a pregnant woman after unsatisfying intercourse with her husband which may cause a miscarriage	moe yuayua
	to become possessed by a ghost during sleep	moe uluia
	to pretend to be asleep	moe wayiyila
	to move arms during sleep	moe wawa
	to sleep with one leg wound round another person	moe wakawiwi
	to be too excited to sleep	moe wawangu
	to sleep with legs spread apart	moe wewela
	to turn from side to side in sleep	moe witi
	fitful spasmodic sleep	moe wowowowo
	to turn over on side during sleep	moe wuli kaokao
	to sleep lying on the stomach	moe wuli pulou
	to sleep lying on the back	moe wuli vakevake
	to groan or talk in sleep	moe wunga

11: Hutchin M-2 (1904) 1904 Pukapukans

539 maata. E meangiti na te roto (lagoon) i taua tuatau ra. Ko te akaturi te ara i pou ei te tangata, e no te takinga kino o te tangata i te au idolo, no reira kua kiriti tumu te au atua i te enua. Ko tetai aronga kua akaoraia e to ratou au idolo, auraka e mate. Ko tetai aronga tei mate ana, na to ratou au idolo i akatu ana ia ratou ki runga. Na te tamaine a te ariki te kino. Kare taua tamaine i moeia e te tane, e kua aere aia e kua tuatua aia kia rave i te peu akaturi. Kua tuatua kotoa aia, e akakino i te au idolo. Kua riri te au idolo i reira, e kua akatupu ana ratou i te deluvi.

Ko te tupu anga o te tangata mei te metua vaine ia. Ko Te Ua Ruru, ko ratou te kopu tangata taito, e kua tupu ratou, mei te metua vaine ko Teraio. Ko Te Mango, ko te rua ia o te kopu tangata. Ko Te Uira, ko te toru ia o te kopu tangata. Ko Te Kati ko te á ia o te kopu tangata.

---

192 Ko tetai au tuatua taito o Bukabuka, e te akatau anga ki te reo Rarotonga, e te rea Beritane.

Bukabukan.	*Rarotongan.*	*English.*
Teratara	Tuatua	Word.
Whare	Are	House
Taaua	Tamaki	Fight
Ora	Tangata Metua	An old man
Whenua	Enua	Land
Wa	A	Four
Whitu	Itu	Seven
Katoa	Ngauru	Ten
Akaemaema	Akaperepere	Beloved
Tataku	Pure	Pray
Manatua	Varaa	Jealousy
Riri pokerekere	Riri otooto	Fierce anger
Watitiri	Mangungu	Thunder
Ranie	Rangi marie	Fine (as a fine day)
Tainamua	Tuakana	Elder or Eldest
Tainamuri	Teina	Younger or Youngest
Kainga Vaine	Tuaine	Real Sister
Kainga Tane	Tungane	Real Brother
Whareatua	Ko te tamaine ia a te tuakana	The daughter of the elder or eldest brother. Whareatua = the abode of the god.
Inakava	Ko te tamaine ia a te tuaine	The daughter of the sister
Aka	Takai	To tread
Lei vanau	Rengarenga	Yellow
Popo kava	Kerekere rava	Very black
Kena	Teatea	White
Makavakevake	Teatea rava	Very white
Koko	Korare	Spear
Kura melo	Muramura	A light red
Kura toto	Muramura roa	A dark red
Matoyinga	Ngati, as Ngati tangiia	A tribe
Poripori	Katiri	*A line of descent.

*This is reckoned in Bukabuka from the female side